



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,574	02/18/2004	Ho Lu	JCLA12196	4739
23900	7590	08/18/2005		EXAMINER
J C PATENTS, INC. 4 VENTURE, SUITE 250 IRVINE, CA 92618			KOVAL, MELISSA J	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/782,574	LU ET AL. 	
	Examiner Melissa J. Koval	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 20 July 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 20 July 2005 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings were received on July 20, 2005. These drawings are approved.

Note with respect to page 2 of Applicant's remarks filed on July 20, 2005, the section titled "In the Drawings", Applicant refers to Figures 4, 7, 9, 10 and 11, only, therein.

However the actual replacement Sheets of Drawings also include changes to Figure 12.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 10, 11, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Ramanujan et al. U.S. Patent Application US 2002/0118375 A1.

Claim 1 sets forth: "An optical projection system, capable of receiving a first light beam, a second light beam, and a third light beam, the projection system comprising (See Figure 3a with light sources 20, 22 and 26.):

a color-combination prism, having a first surface, a second surface and a third surface, allowing the first, second and third light beams to respectively enter the first, second and third surfaces, so as to form a mixed beam to emit out from another surface (See combining prism 86.);

a projection lens set for receiving the mixed beam for projection (Print lens assembly 110.);

a first wire grid polarizer (WGP) (See polarizing beam splitter 80 and paragraph [0073].), a second WGP (See polarizing beam splitter 82 and paragraph [0073].) and a third WGP (See polarizing beam splitter 84 and paragraph [0073].) for respectively receiving and polarizing the first, second and third light beams and respectively reflecting the polarized beams to a first liquid crystal reflection panel (See reflective LCD modulator 90.), a second liquid crystal reflection panel (See reflective LCD modulator 95.) and a third liquid crystal panel (See reflective LCD modulator 97.), wherein the first, second and third liquid crystal reflection panels are respectively positioned substantially-parallel to the first, second and third surfaces of the color combination prism, and wherein the first, second and third liquid crystal reflection panels respectively receive the polarized light beams from the first, second and third WGPs and reflect polarized light beams to the first, second and third surfaces of the color combination prism.

Claim 2 sets forth: "The optical projection system of claim 1, wherein each of the first, second and third WGPs allows a light component with a first polarization state to pass, and reflects a light component with a second polarization state." See paragraphs [0063], [0064], and [0065], for example.

Claim 3 sets forth: "The optical projection system of claim 1, wherein each of the first, second and third liquid crystal reflection panels includes a plurality of pixels, hereby an incident polarization state with respect to each of the pixels can be changed to the desired polarization state, so as to transmit the WGPs." See paragraph [0008].

Claim 4 sets forth: "The optical projection system of claim 3, wherein the first, second and third liquid crystal reflection panels provide an image pattern by changing the polarization state." See paragraph [0079].

Claim 5 sets forth: "The optical projection system of claim 1, wherein the color-combination prism includes an X-cube." Combining prism 86 is described as an x-cube in paragraph [0061], for example, and can be clearly seen as such in Figure 3a, for example.

Claim 6 sets forth: "The optical projection system of claim 1, further comprising a first color splitter, to split a light source into a first primary color beam and a color mixing beam." Refer to the embodiment of Figure 1. See dichroic beam splitter 60.

Claim 7 sets forth: "The optical projection system of claim 6, further comprising a second color splitter, to split the color mixing beam into a second primary color beam and a first primary color beam." Refer to the embodiment of Figure 1. See dichroic beam splitters 63 and 65.

Claims 10, 11, 13 and 14 are rejected for the same reasons already applied to claims 1 through 5 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramanujan et al. U.S. Patent Application US 2002/0118375 A1 in view of Hansen et al. U.S. Patent 6,666,556 B2.

Ramanujan et al. '375 A1 teach all of the elements of claim 8, except that '375 A1 are silent to the presence of a polarizer disposed in the light path of each of the first, second and third light beams, as set forth in claim 8.

See Figure 1a of Hansen '556 B2, for example. Also see pre-polarizers 26a-c as discussed by '556 B2 in column 11, lines 41 through 57. The use of a pre-polarizer to further direct light to the remaining components in the system, including an arrangement of wire grid polarizers, is well known in the art as taught by '556 B2.

The color image projection systems of Ramanujan et al. '375 A1 and Hansen '556 B2 are analogous. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the addition of a pre-polarizer as taught by '556 B2 to further direct light to components including an array of wire grid polarizers as taught by '375 A1, thus meeting the limitations of claim 8. The motivation for one having ordinary skill in the art to make such an addition would be to achieve a brighter system with less loss of stray light, improve color fidelity, extend the life of the system and lower costs, for example.

With respect to claims 9 and 12, see the effect of the incorporation of a CMOS back panel to reflective LCD panels as taught by Ramanujan et al. '375 A1 in paragraph [0078]. Furthermore, Hansen '556 B2 teaches the use LCOS panels in column 1, lines 34 through 53.

Response to Arguments

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lian et al. U.S. Patent Application Publication US 2005/0024591 A1 teaches a reflective polarization valve engine and projection display using the same.

Kato US 2004/0109329 A1 teaches a light source device and projection display.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2851

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa J. Koval whose telephone number is (571) 272-2121. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJK

A handwritten signature in black ink, appearing to read "Melissa J. Koval". The signature is fluid and cursive, with "Melissa" on top, "J. " in the middle, and "Koval" on the bottom right. There are some additional, less distinct strokes extending from the main signature.

Application No.:10/782,574

Docket No.: JCLA12196

In The Drawings:

Please amend Figures 4, 7, 9, 10 and 11 as shown in red ink in the separate accompanying pages. Proposed corrected drawing including corrected Figures 4, 7, 9, 10 and 11 is also attached hereto in separate accompanying pages. Reconsideration is respectfully requested.

Drawing
Correction
Approved
for entry
MJK
8/15/05

Page 2 of 17

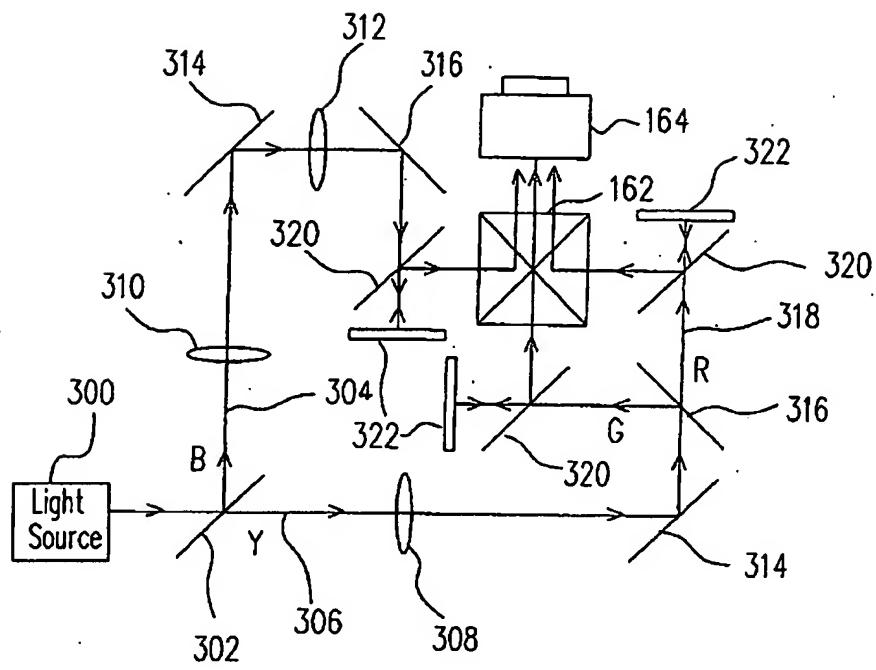
Replacement sheet

FIG. 4 (PRIOR ART)

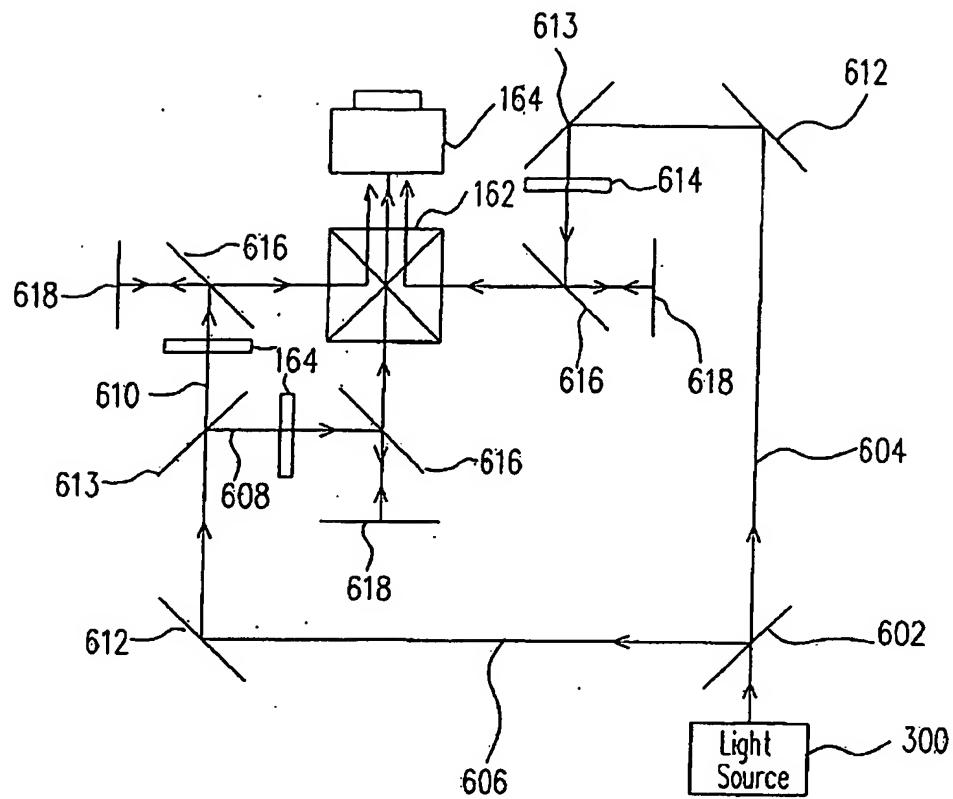
Replacement sheet

FIG. 7

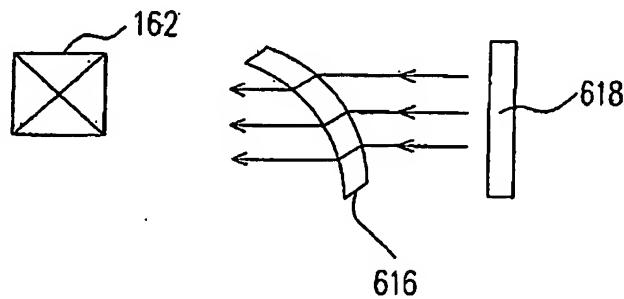


FIG. 8

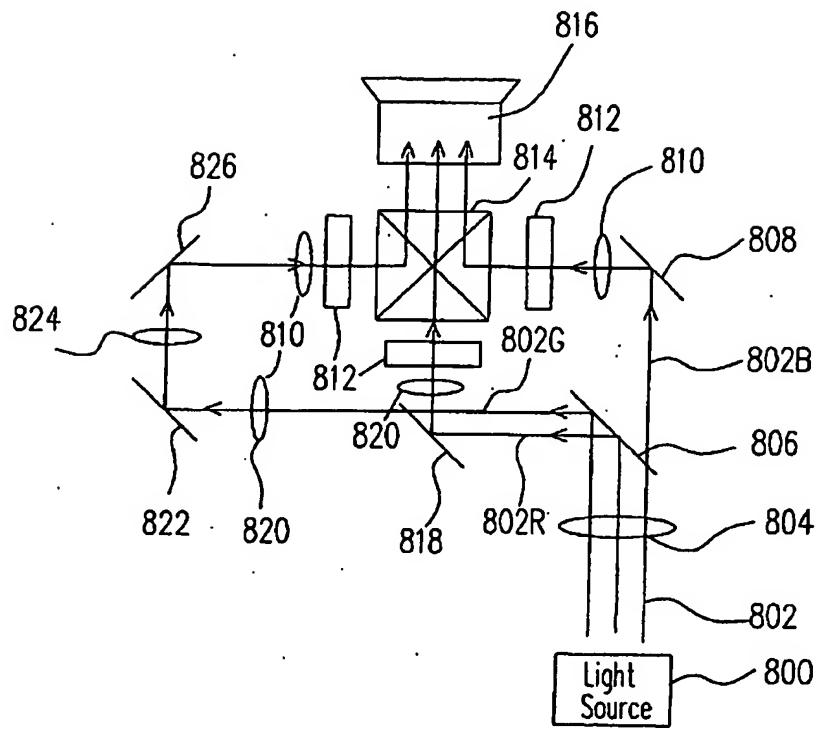
Replacement sheet

FIG. 9 (PRIOR ART)

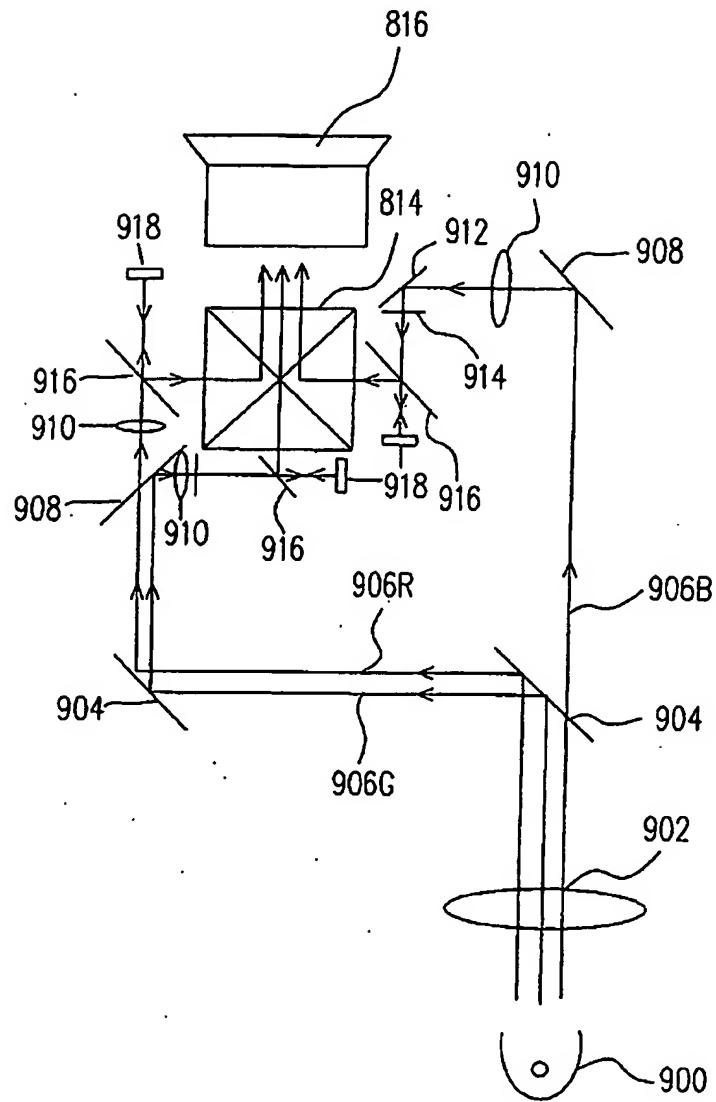
Replacement sheet

FIG. 10(PRIOR ART)

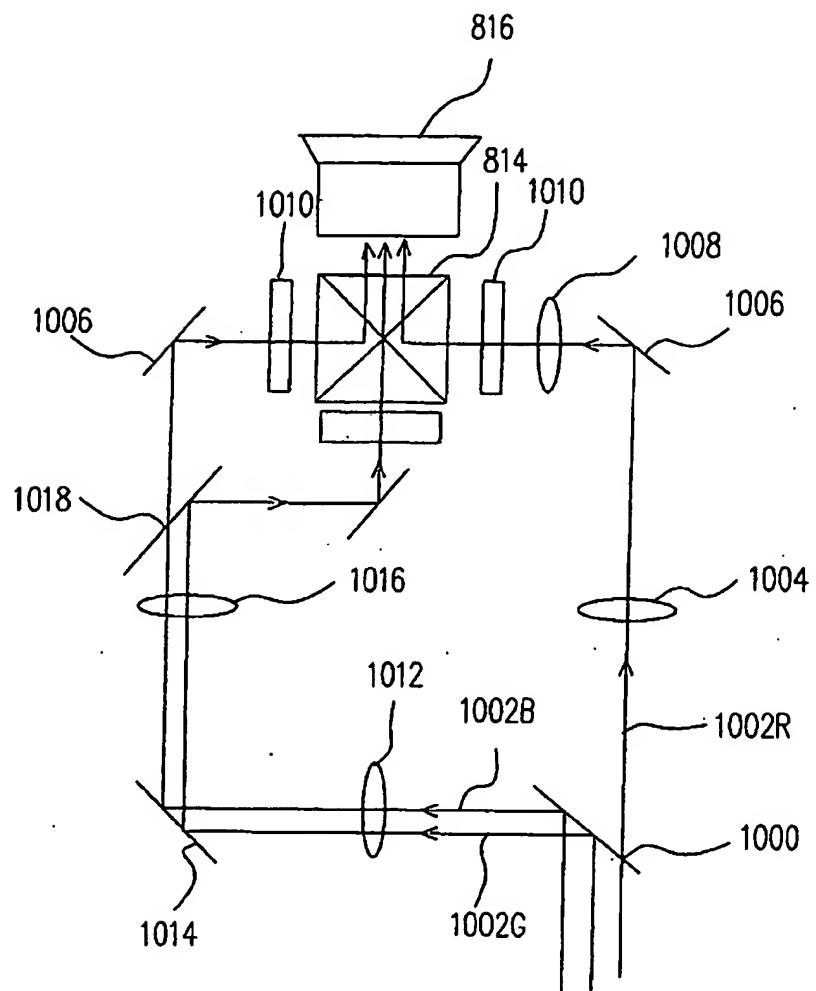
Replacement sheet

FIG. 11

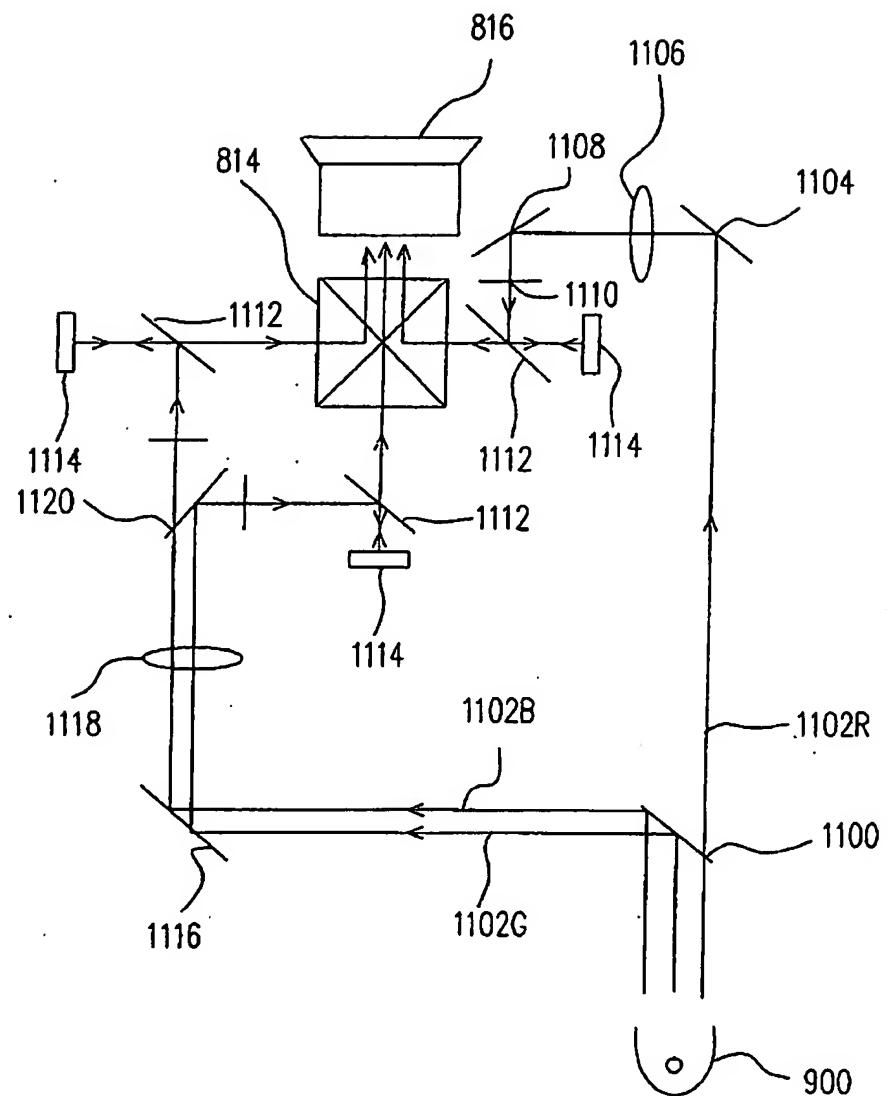
Replacement sheet

FIG. 12